Mitarbeiter für Sommer 1978 gesucht
Station Randecker Maar – Schwäbische Alb, Vogelzug – Insektenwanderungen

Das Randecker Maar am nördlichen Steilabfall der Schwäbischen Alb ist ein bewährter Punkt zur Erfassung von Insekten- und Vogelwanderungen. Die Station, in reizvoller Umgebung am Rande eines Hochmoors gelegen, sucht für die Zeit von Mitte Juli bis September noch entomologische Mitarbeiter zur Durchführung von Insektenzugbeobachtungen und zur Betreuung der Lichtfallen. Kenntnisse der nächtlich fliegenden Macrolepidopteren sind Voraussetzung (bes. Noctuidae).
Nähere Auskünfte erteilt WULF GATTER, 7318 Schopfloch – Forsthaus, Telefon 07026/2104.

Butterflies from the Hindukush, Karakorum, Kashmir and Ladak, with Descriptions of two nes Species and six Subspecies

by

SEIJI SAKAI

Since 1971, I have made several collecting trips to the Hindukush, Karakorum, Kashmir and Ladak, mainly to collect the Tribe *Parnassiini*. In these areas, at least fifteen distinct species are found belonging to the Tribe *Parnassiini*. During my collecting trips (1971–1976). I have captured all of the following species:

Parnassius autocrator AVINOFF (Anjuman Valley, NE-Hindukush)
Parnassius inopinatus inopinatus KOTZSCH (Koh-i-Baba Mts., Afghanistan)
Parnassius inopinatus muetingi WYATT (Paktia, Afghanistan)
Parnassius charltonius voigti BANG-HAAS (Paghman & Unai Pass, Afghanistan)
Parnassius charltonius serenissimus BRYK (Kashmir)
Parnassius charltonius ella BRYK (Goma, S. Karakorum)
Parnassius stoliczkanus zojilaica TYTLER (Amarnath, Kashmir)
Parnassius hardwickei hardwickei GRAY (Mt. Kolahoi, Kashmir)
Parnassius mnemosyne kromeri SCHRÖDER (Panjshir, Valley, Afghanistan)
Parnassius delphius kohibaba CLENCH & SHOUMATOFF (Koh-i-Baba Mts., Afghanistan)
Parnassius delphius ruth KOTZSCH (Anjuman Valley, NE-Hindukush)
Parnassius delphius micha EISNER (Salang Pass, Afghanistan)
Parnassius honrathi afganistanus EISNER (Koh-i-Baba Mts., Afghanistan)
Parnassius jaquemontii nuksanica KOTZSCH (Anjuman Valley, NE-Hindukush)
Parnassius jaquemontii kohibabaensis EISNER & SAKAI (Koh-i-Baba Mts., Afghanistan)
Parnassius actius sulla BRYK & EISNER (NE-Hindukush Mts., Afghanistan)
Hypermnestra helios aryana WYATT (Bamiyan, Koh-i-Baba Mts., Afghanistan)

In this paper, I would like to report their food plants, some ecological notes, and describe some new and interesting species and subspecies from these areas. Before going further, I wish to extend my thanks to the following gentlemen for their help in this work.

P.R. ACKERY (British Museum, Natural History, London, England); Dr. H. K. CLENCH (Carnegie Museum, Natural History, Pittsburgh, U.S.A.); C. EISNER (Den Haag, Holland); Dr. W. FORSTER (Zoologische Sammlung des Bayerischen Staates, W. Germany); the late Dr. ECKHARDT (Botanischer Garten und Bortanisches Museum, Berlin, W. Germany); Dr. L. G. HIGGINS (Woking, England); Dr. R. de JONG (Rijksmuseum van Natuurlijke Historie, Leiden, Holland); Dr. Yu. A. KOSTIUK (Zoological Museum Institute of Zoology, Ukrainian Academy of Science, Kiev, U.S.S.R.); Dr. R. KRAUSE (Staatliches Museum für Tierkunde, Dresden, D.D.R.); Y KIKUCHI (Kanagawa, Japan); R.I. VANE-WRIGHT (British Museum, Natural History, London, England); Dr. J. VIIDALEPP (TA Zoologia ja Botaanika Institute, Estonia, U.S.S.R.); the late C.W. WYATT (Farnham, England).

I am also indebted to Mr. T.G. HOWARTH (British Museum, Natural History, London England) who has read my manuscript and has given valuable criticism. Thanks are also due to Dr. H. FREITAG (Lehrstuhl für Geobotanik, Systematisch Geobotanisches Institut der Universität Göttingen, W. Germany) for his botanical assistance in determining the plants mentioned in this paper. My very good friend Mr. A.M. MOHABBAT (Kabul, Afghanistan) very kindly helped me by accompanying me in my travels in Afghanistan.

Parnassius autocrator AVINOFF, 1913

(Hor. Soc. ent. Ross., 40:16)

P. autocrator was described as a new subspecies of *P. charltonius* by A. AVINOFF. However, there is very little doubt that *P. autocrator* is a good species, for this species is closely allied to *P. chaltonius*, but very easily distinguishable from it by the type of sphragis. The larva is still unknown, but the pupa was discovered by Mr. Y ISHIKAWA at Upper Bala-Quran village, 3400 m, NE-Hindukush, Mts., Afghanistan. Indeed, it was an accidental discovery. In July 1971, I stayed at Bala-Quran village as a member of „The Research Expedition of Insects to Central Asia 1971" One day I was collectin butterflies with Mr. ISHIKAWA along the bottom of the valley which ist fancifully namend „The Valley of Autocrator" While we were resting under a small wild willow, Mr. ISHIKAWA picked up a small stone which was lying near by and the cocoon was found hanging on the flat side of the stone (see Fig. 63). A light brown pupa was in the silken cocoon. Unfortunately, most parts of the pupa, except the head were broken due to an accident when we carried it to Kabul. J.H. LEECH (1892–4, Butterflies from China, Japan and

Corea, p. 505) introduced the early stages of *Parnassius imperator* as follows: „The pupa is brown, and is found attached by a silk web to the under surface of stones"

This style of cocoon bears a curious resemblance to *P. autocrator*. The fertile females were observed sitting with their wings opened near the food plant *Corydalis adiantifolia*, but the males usually fly near the ground of the dry rocky mountains searching for females.

Distribution: This species is distributed in the NE-Hindukush Mts. (Khodja Mahomed Mts., at 3800 m elevation; Upper Bala-Quran at 3400–3700 m elevation; Munjan Valley at 3500–3800 m elevation) and the Pamirs (Gushkon Pass, U.S.S.R.: Upper Ishimurgh at 3800 m elevation, Wakhan Valley) without any geographical variation.

Parnassius chaltonius GRAY, 1852
(Cat. Lep. Ins. Mus. **1**:77 t.12,f.7)

This species emerges in July and August. It inhabits dry rocky mountains at an altitude of 3500–3900 m. As i have listed in this paper, I captured this species in four different localities and the facts that I have discovered are given in the following table:

subspecific name	locality	elevation	food plant
voigti BANG-HAAS	Paghman Mts., Afghanistan Dry rocky mountains in company with *P. paghmanni, C. wiscotti* and *A. pheretiades*	3500–3800m	unknown
voigti BANG-HAAS	Unai Pass. Afghanistan Dry rocky mountains in company with *A. caschmirensis. A. rizana* and *P. paghmanni.*	3500–3800m	unknown
ella BRYK	Upper Goma, S. Karakorum Dry rocky mountains in company with *Pieris deota!!.*	3800m	*C.gortschakovi* (Yellow flowered)
serenissimus BRYK	Mt. Kolahoi, Kashmir Dry rocky mountains and stony slopes in company with *P. kalinda.*	3800m	*C.thyrsiflora* (Yellow flowered)

In Mt. Kolahoi, the fertile females were observed sitting with their wings opened

very near the food plant *Corydalis thyrsiflora*. This is one of the largest known subspecies of *charltonius.*

Distribution: Hindukush, The Pamirs, Karakorum, Kashmir, Ladak and the Garwal Himalayas.

Parnassius delphius kohibaba CLENCH & SHOUMATOFF, 1956
(Vidensk, Medd. dansk. naturhist. Foren. Kbh., **118**:175)

This subspecies has been collected mainly on the Northern slopes of Mt. Shahfuladi at 4000–4500 m elevation. This species inhabits higher altitudes than the *charltonius* group *(P. autocrator, P. inopinatus, P. charltonius* and *P. loxias)* and the present subspecies flies on the steep slopes in the companing of *C. marcopolo, P. jaquemontii, P. badakushanus, A. pheretiades, C. cocandica* and *P. howarthi* n. spec. (a total of 70 specimens were collected by me on the northern slopes of Mt. Shahfuladi. Unfortunately, many of them were worn and were not in prime condition. The food plant is as figured.)
Distribution: Tienshan, the Pamirs, Hindukush, Kashmir and Ladak. The present subspecies is known from the Koh-i-Baba Mts., Afghanistan.

Parnassius jaquemontii nuksanica KOTZSCH, 1936
(Parn. **4**:5)

The subspecies *nuksanica* was commonly found in the NE-Hindukush Mts.. The species, however, was extremely rare in the Koh-i-Baba Mts., C. Afghanistan. The present subspecies was observed flying at an altitude of 3800–4500 m on the dry steep slopes and the moraines of the dry rocky mountains accompanied by *C. marcopolo, C. eogene, P. shakti* and *L. aeolus*. The food plant is as figured.

Distribution: Tienshan, The Pamirs, Hindukush, Karakorum, Kashmir, Ladak, Tibet and W. China. The species ist separated into many subspecies.

Parnassius honrathi afganistanus EISNER, 1940
(Temminckia **5**:264)

This species emerges from the end of May till the end of June. In the Hindukush Mts., it inhabits a lower altitude than any other species of this genus. I took a series of 7 ♂♂ and 4 ♀♀ at Upper Panjao (at 3300 m elevation), W. Koh-i-Baba Mts. and at the same time I found the cocoon of this species lying covered by some rocks, or lying at the root of grasses behind a rock. The pupa is dark brown, and is in a co-

coon of silk, but all of those found had already been killed by parasites; afghanistanus was observed flying on the dry steep slopes accompanied by *Parnassius inopinatus, Lyera macmahoni* and *Melitaea kuchi*. The food plant is a *Sedum* sp. as figured.

Distribution: Turkestan, the Pamirs and the Hindukush. The present subspecies is known from the Koh-i-Baba Mts., C. Afghanistan.

Hypermnestra helios aryana WYATT, 1961
(Journ. Lep. Soc., **15**(1):2–3)

This species inhabits dry stony hills and dry rocky mountains and emerges in May and June. Several specimens of the present subspecies were taken in Bamiyan (3000 m), Koh-i-Baba Mts., C. Afghanistan. The eggs are laid on the food plant *Zygophyllum miniatum*, and the larvae were found upon the leaves of that plant.

Distribution: Baluchistan, Afghanistan, Iran and Turkestan. The species is restricted to this area.

Pararge hinducucica WYATT & OMOTO, 1966
(Entomops, **6**:173)

This very local species was described by WYATT & OMOTO, but the female was unknown, then Mr. T. NISHIZAWA captured a female of this species at the same locality as the male (Holotype) and I now figure a female of this very rare species.

♀: Upper Bala-Quran, 7.–23.VII.1971, Anjuman Valley, 3500 m, NE-Hindukush Mts., Afghanistan, T. NISHIZAWA leg., in coll. S. SAKAI

Aulocera brahminus brahminus BLANCHARD, 1844
(Jacquemony, Voy. dans l'Inde, iv, Ins., p. 22)

This species is commonly found in Kashmir at 3500–3700 m elevation. In Manali, Himachal Pradesh, it inhabits higher altitudes than *A. swaha*. This species was observed flying on grassy slopes accompanied by *Aglais rizana* and *Aglais caschmirensis*.

Muhree hills, Himachal Pradesh:	5 ♂♂, 2 ♀♀ (Length of forewing ♂, ♀ 30 mm)
Grampoo, Himachal Pradesh:	16 ♂♂, (Length of forewing ♂, ♀ 28 mm)
Aru, Kashmir:	3 ♂♂, 3 ♀♀ (Length of forewing ♂, ♀ 28 mm)
	leg. et in coll. S. SAKAI

Aulocera brahminus tsukadai n. subsp.

Recently, I have received some butterflies which were taken by the Gakushuin University expedition to Karakorum in 1976. As the result of the determination of this material, I found this unique subspecies. Herewith I would like to describe it as a new subspecies of *A. brahminus*. One of the expedition members captured a series of 8 ♂♂ and 3 ♀♀ at Sani (3600–3800 m, 11.VIII., Zaskar). The present new subspecies is distinguishable from any other by its extremely small size. The length of forewing being 24,5 mm in the male, 25 mm in the female!. Allied to ssp. *brahminus*, the discal band on the hindwings is much wider and the discal spots on the forewings are very well developed. I am very grateful to Mr. E. TSUKADA for his kindness and generosity in giving me the opportunity for determining this most interesting *brahminus* material.
Holotype ♂: Sani at 3600–3800 m, 11. VIII. 1976, Zaskar Mts., India, in coll. S. SAKAI
Paratypes: Same data and same locality as above: 3 ♂♂, 2 ♀♀ in coll. S. SAKAI; 3 ♂♂, 1 ♀ in coll. E. TSUKADA; 2 ♂♂ in coll. British Museum, Natural History, London, England.

Distribution: This species is very widely distributed from Sikkim to Zaskar and is separated into four subspecies.

Pieris krueperi devta de NICEVILLE, 1883
(Journ. As Soc. Beng., p. 82, p. ix, figs. 9, 9a)

This species is distributed from Europe (S. Balkans) to Ladak and is always very local indeed. In Ladak, it is double brooded, the first generation flying from June to early July and the second generation from the end of July to August. This species was observed flying on dry rocky mountains accompanied by *P. machaon ladakensis* and *P. lehana*.

2 ♂♂: (spring form) Leh, 3600 m, 4. VIII. 1976, Ladak, India. 1 ♂ leg. et in coll. S. SAKAI: 1 ♂, in coll. Y. KIKUCHI.
1 ♂: (summer form) same data and same locality as above. in coll. S. SAKAI;

Melitaea shandura shandura EVANS, 1924
(Journ. Bomb. nat. Hist. Soc., **30**:90)

This is the first record of this species from the Koh-i-Baba Mts., C. Afghanistan. A total of nine specimens were captured by me and they appear to belong to the Anjuman ssp. *shandura.* In this species, especially in the females, some specimens have no black spots in the hind descal area and the variation in specimens from the same place is great. As the late C. WYATT (1961) mentioned, this is a high altitude

moraine species. In the Hindukush, it inhabits higher altitudes than any other species of this genus.
5 ♂♂, 4 ♀♀: N. Slope of Mt. Shahfuladi, 8–12. VIII. 1974, 400–4500 m, Koh-i-Baba Mts., C. Afghanistan. leg. et in coll. S. SAKAI.
Specimens examined: 1 ♂, 5 ♀♀: Ghawas Valley, 3800–4200m, 25–27. July 1971 NE-Hindukush, Afghanistan. leg. et. in coll. S. SAKAI.

Fixsenia lederei BOISDUVAL, 1848
(Bull. Soc. Ent. Fr., p. 29)

This is the first record of the species from Afghanistan. I captured only one male on the saddle of the Tera Pass, just south of Kabul. I cannot decide the subspecific name of it for I have no identified specimens of this species to compare with the Hindukush specimens in my collection; I think, I may be able to determine these Afghanistan specimens when further specimens become available.

1 ♂, Tera Pass, 9. VI. 1974, Paktia Afghanistan. leg. et. in coll. S. SAKAI.

Distribution: This species is distributed from Lebanon to the Hindukush. It seems to be very local.

Hyponephele amardaea perplexa WYATT & OMOTO, 1966
(Entomops, **6**:182–183)

5 ♂♂, Upper Bala-Quran, 3500 m, Anjuman Valley, 7–22 VII. 1971, Afghanistan.
1 ♀, Krupetau, Panjshir Valley, 2–3. VII. 1971, NE-Hindukush, Afghanistan. leg. et in coll. S. SAKAI.
Distribution: Iran, Afghanistan, Pamir and Turkestan.

Hyponephele amardaea eisneri n. subsp.

In the Hindukush, this species occurs on dry rocky mountains and dry steep slopes accompanied by *H. musittans* and various species of the genus *Melitaea*. Though closely allied to the Anjuman ssp. *perplexa*, it differs from it in the following respects.
1) Apical ocellus is much smaller.
2) Androconial scale band is very well developed, while in *perplexa* it is greatly reduced or absent.
3) Inconspicuous orange-brown band on forewing above.

Unfortunately, I did not capture a single female. Three of the males have a very small ocellus in space 4 on the forewing upperside.

Holotype ♂: Unai Pass. Wardak, 3300–3800 m, 1–4. VIII. 1974, Afghanistan. leg. et in coll. S. SAKAI.

Paratypes: 1 ♂, Bande Amir: 12 ♂♂, Unai Pass, Koh-i-Baba Mts., Afghanistan. leg. et in coll. S. SAKAI.

Length of male forewing: 16.5 mm—17.5 mm

Hesperia comma comma LINNÉ, 1758
(Syst. Nat (ed. 10) **1**: 484)

This is ab new record for the Koh-i-Baba Mts., C. Afghanistan. My very good friend Dr. R. de JONG kindly examined the male genitalia of this race. At present, his opinion is as follows: In specimens from Europe, Siberia and C. Asia the distal end of the cucullus of the male genitalia is smooth or crenulate, in the NW Himalayas (ssp. *shandura*) it is *serrate*. Upper Bala-Quran specimens all proved to have a slightly *serrate* cucullus. So they are suggestive of *shandura*, though their external characters may be slightly different. The Koh-i-Baba specimens have a very slightly *serrate* distal edge of the cucullus. This state of affairs may indicate that two forms of comma meet in Afghanistan. Of course, much more extensive material from various parts of Afghanistan is needed to confirm this suggestion.

1 ♂, Unai Pass, Wardak, 3300—3800 m, 1—4. VIII. 1974. Koh-i-Baba. Mts. Afghanistan. S. SAKAI leg. in coll. Rijksmuseum van Natuurlijke Historie, Leiden, Holland
1 ♂, Mt. Shahfuladi, 3500—3800 m, 8—12. VIII. 1974, Koh-i-Baba Mts., Afghanistan. leg. et in coll. S. SAKAI.

Distribution: Europe, S. Russia, Siberia, Hindukush, NW-Himalayas, W. China and Japan.

Agriades pheretiades forsteri n. subsp.

This is a new record for the Paghman Mts., Unai Pass, Wardak, Lake Bande Amir and the main chain of the Koh-i-Baba Mts., Central Afghanistan. It occurs at high elevations and is found flying at the same places of *P. delphius kohibaba* and *P. jaquemontii.* This, the handsomest population differs from any other subspecies in the following respects.

1) ♂: The upperside of the wings is metallic greyish-blue with a row of black markings running along the margin of all wings. A triangulate black spot in the discal cell is well developed.
2) ♀: Similar to male, but the upperside of the ground colour is matallic greyish-brown with very heavy black markings.
3) Underside: Both sexes similar, and close to the Panjshir ssp. *andarabi* but it has much heavier and prominent black markings running along the margin of all wings.

Holotype ♂: Paghman Mts., 5.–10. VIII. 1972, 3300–3800 m, Afghanistan. leg. et in coll. S. SAKAI.
Paratypes: Paghman Mts., 4 ♂♂, 1 ♀, Bande Amir 1 ♂, Unai Pass 1 ♂, (in coll. S. SAKAI); Paghman Mts., 1 ♂, Mt. Shahfuladi 1 ♂, 2 ♀♀, in coll. Zoologische Sammlung des Bayerischen Staates, W. Germany
Mt. Shahfulade 1 ♂, 2 ♀♀ in coll. British Museum, Natural History, London, England. All leg. S. Sakai
Length of forewing: ♂♀ 11.5 mm
Dr. W. FORSTER kindly examined and determined the series as belonging to a new subspecies of *A. pheretiades*. I express my thanks for his kind assistance.
Distribution: This species is distributed from Turkestan to Karakorum and the Hindukush mountains.

Agriades pheretiades andarabi FORSTER, 1937
(Mitt. Münch. Ent. Ges., **27**:61)

Ghawas valley (1 ♂); Upper Bala-Quran 1 ♂, 1 ♀; Mt. Koh-i-Bandaka 1 ♂, 7 ♀♀. S. TERAMURA leg.; Salang Pass. 1 ♀; in coll. S. SAKAI.

Paralasa afghana (v. d. GOLZT, 1937)

* *Erebia afghana* v. d. GOLTZ, 1937, Ent. Rundschau, **54** (29): 361, figs. 2a, 2b.
* *Paralasa asura* WYATT, 1961, Journ. Lep. Soc., **15**(1):12–13, figs. 48&46, 49&47 (♀)
syn. nov.

This species is commonly found in the Anjuman valley at elevations of 3300–3600 m. A total of 135 specimens were captured by me. My specimens were identical with v. d. GOLTZ'S *afghana*. In 1961, C. WYATT described his *asura* as a new species of this genus, but I believe WYATT'S *asura* to be a synonym of *P. afghana*. In the females, the subapical ocellus is very variable in size (see figs. 51&52). This species was observed flying on the dry rocky mountains in company with *P. autocrator, P. mahometana* and *A. argyrospirata.*
Distribution: NE-Hindukush Mts., Afghanistan.

Paralasa afghana panjshira WYATT & OMOTO, 1966
(*Paralasa asura panjshira* WYATT & OMOTO, 1966, Entomops 6:190)

5 ♂♂: Krupetau, Panjshir valley, 3300–3500 m, 2–3. VII. 1971, NE-Hindukush, Afghanistan. leg. et. in coll. S. SAKAI.

Paralasa shakti WYATT, 1961
(Journ. Lep. Soc. **15**:13)

5 ♂♂, 12 ♀♀: Upper Bala-Quran, 3800–4200 m, 7–22. VII. 1971, NE-Hindukush, Mts., Afghanistan, leg. et. in coll. S. SAKAI.

Paralasa mani icelos GRUM-GRSHIMAILO, 1890
(Mem. Rom. 4:452, t. 13, f. 4b, c)

3 ♂♂: Upper Bala-Quran, 3800–4200 m, 7–22. VII. 1971, NE-Hindukush Mts., Afghanistan, leg. et. in coll. S. SAKAI.
Distribution: Ladak, Zaskar, Karakorum, NE-Hindukush, the Swat Himalayas, Ferghana and Tienshan. The present subspecies is distributed in the NE-Hindukush Mts. to Hissar.

Paralasa kalinda MOORE, 1865
(Proc. Zool. Soc. Lond., p. 501, pl. fig. 5)

In Himachal Pradesh, this species is not rare. It occurs on the stony slopes of dry rocky mountains.
39 ♂♂, 9 ♀♀: Grampoo, 3600 m, 31. VII.–10. VIII. 1975, Himachal Pradesh, India. leg. et. in coll. S. SAKAI.
1 ♂, 3 ♀♀: Mt. Kolahoi, 3800 m, 8–14. VIII. 1976, Kashmir India.
leg. et. in coll. S SAKAI.
Distribution: Kashmir and Kumaon.

Paralasa paghmanni BANG-HAAS, 1927
(Horae Macrolept., **I**: 47

Paralasa paghmanni mohabbati n. subsp.

I captured this species in three different localities, namely Paghman Mts., 5 ♂♂, 5.–10.VIII. 1971, at 3500–3800 m; 23 ♂♂, 3 ♀♀, same locality, 5.–10.VIII. 1972; Mt. Shahfuladi, 2 ♂♂, 3 ♀♀, 8.–12. VIII. 1974 at 3800 m; 1 ♂, 3 ♀♀ Unai Pass, 1.–4.VIII. 1974, 3500–3800 m, Koh-i-Baba Mts., Afghanistan.

The Unai Pass specimens belong to the Paghman ssp. *paghmanni*, but the present material is distinguishable from *paghmanni* by its small size. The length of forewing: 22 mm in male, 25 mm in female. In the females, the underside of the ground colour is much darker, especially basal area, than in *paghmanni*. All males have two white spots (always?) in spaces 4 and 5 on forewing upperside.

Holotype ♂: Northern Slopes of Mt. Shahfuladi, 3800 m, 8.–12. VIII. 1974, Koh-i-Baba Mts., Afghanistan leg. et. in coll. S. SAKAI
Paratypes: 1 ♂, 3 ♀♀, same data and same locality as above.
Distribution: Only known from the Koh-i-Baba Mts. and the Paghman Mts. Afghanistan.

Paralasa howarthi n. spec.

This species is found flying at the same place as *P. delphius kohibaba, C. marcopolo, P. jaquemontii* and *A. pheretiades forsteri*, at 4000–4500 m northern slopes of Mt. Shahfuladi, Koh-i-Baba Mts., Afghanistan. It inhabits on the higher elevations than *Paralasa paghmanni mohabbati* subsp. I captured a series of 10 ♂♂ and 3 ♀♀ during my stay on Mt. Shahfuladi from August 8th to 12th, 1974. I had also taken a single female at upper Paghman Mts. on a previous visit.
It is not only larger than the Kohibaba specimens but also the forewing is more rounded. This species is closely allied to *Paralasa chitralica*, but very easily distinguishable from it by its undeveloped yellow-ringed ocelli on the upperside forewing. The white-centred ocellus is larger than in *chitralica.* The ground colour of both upper and under sides is dark brown and paler than in *P. chitralica.* Usually the single ocellus has a white centred spot, but in one rounded it has two white spots. The forewing of the females is always more rounded than the males as one would expect. Underside: Five very small whitish-yellow dots run along the hind margin. In some specimens, there are fewer dots.
Holotype ♀: Paghman Mts., 5.–10. VIII. 1972, 3800 m, Afghanistan. leg. et. in coll. S. SAKAI.
Length of forewing: 25 mm
Paratypes: Mt. Shahfuladi (3 ♂♂, 1 ♀, in coll. British Museum, Natural History, London, England)
Length of forewing: ♂♀ 23 mm–23,5 mm
Distribution: The Koh-i-Baba Mts. and the Paghman Mts., Afghanistan. Very local.

Paralasa chitralica manioides WYATT & OMOTO, 1966
(Entomops **6**: 191–192)

2 ♀♀: Ghawas valley, 3800–4200 m, 25. VII. 1971, NE-Hindukush Mts., Afghanistan. leg. et. in coll. S. SAKAI
1 ♀: Kodja Mahomed Mts., 4200 m, 24. VII. 1971, NE-Hindukush Mts., Afghanistan. T. NISHIZAWA leg., in coll. S. SAKAI.
Distribution: Wakhan, NE-Hindukush and Chitral.

Colias cocandica hinducucica VERITY, 1911
(Rhopalocera Palaearctica, p. 353, pl. LXX, figs. 25–27)

This is a new record for the Koh-i-Baba Mts., C. Afghanistan. It appears to belong to the NE-Hindukush ssp. *hinducucica*.

2 ♂♂, 5 ♀♀: Northern slopes of Mt. Shahfuladi, at 4200 m elevation, 8.–12. VIII. 1974. leg. et. in coll. S. SAKAI,
Specimens examined: 2 ♂♂, 2 ♀♀: Upper Bala-Quaran, 4000–4200 m, 21.–22. VII. 1971, NE-Hindukush Mts., Afghanistan. leg. et in coll. S. SAKAI.
10 ♂♂, 3 ♀♀: Ghawas valley, 3800–4200 m, 25.–27. VII. 1971, NE-Hindukush, Mts., Afghanistan. leg. et in coll. S. SAKAI.

Lycaena kiyokoae n. spec.

I captured this beautiful species on old moraines and around the lake of a glacier at 4000–4500 m elevation, just on the northern slopes of Mt. Shahfuladi, Koh-i-Baba Mts., Central Afghanistan. Nearly related to *L. phlaeas*, but very easily distinguishable from it by its ground colour of metallic orange-grey with a bluish sheen and by the extremely narrow black marginal band on the hindwing underside.

♀: Upperside forewing metallic orange-grey, with a row of inconspicuous greyish-orange spots running along the narrow marginal band. Squared black spot in cell. The upperside of the hindwing is orange-grey with a well developed series of bluish post discal spots. Curved black spot in cell. The upperside of the hindwing is orange-grey with a well developed series of bluish post discal spots. Curved black spot in cell. The forewing is more rounded than in the males.
♂: Upperside: Metallic silver-grey with a bluish sheen. The submarginal orange spots present on the hindwing upperside of the female are absent.
Length of forewing: ♂♀ 12 mm

I captured a long series of *L. phlaeas* in various places in the Hindukush Mts. but it does not occur at such a high elevation as this newly discribed species.
Holotype ♀: Mt. Shahfuladi, 8.–12.VIII. 1974, 4000–4500 m, Koh-i-Baba Mts., Afghanistan. leg. et in coll. S. SAKAI
Paratypes: Same data and same locality as above (1 ♂, 1 ♀, in coll. British Museum, Natural History, London, England)
Distribution: Only known from the Koh-i-Baba Mts., Central Afghanistan.

Melitaea didymina higginsi n. subsp.

I sent some specimens of this species to Dr. L. G. Higgins, a specialist of the genus *Melitaea*. Judging by the structure of the male genitalia, he was of the opinion that should be regarded as subspecies of *M. didymina*.This species had not been known from the Hindukush Mts., Afghanistan. It differs from the Mongolian ssp. *didymina* (s.str.) in the following respects.

1) In the males, the upperside ground colour is much more reddish-brown; and it has no submarginal black spots on hindwing upperside, while the Mongolian ssp. *didymina* (s.str.) has a row of submarginal black spots running on the hindwing upperside. Length of forewing: ♂♀, 19mm—20 mm.

Holotype ♂: Bala-Quran 3500 m, 7.—22. VII. 1971, Anjuman valley, NE-Hindukush Mts., Afghanistan, leg. et in coll. S. SAKAI.
Paratypes: 1 ♂, Bala-Quran in coll. L. G. HIGGINS; 2 ♀♀ in coll. S. SAKAI
1 ♂, Kodja Mahomed Mts., leg. T. NISHIZAWA, in coll. S. SAKAI
Distribution: Mongol and the NE-Hindukush mountains.

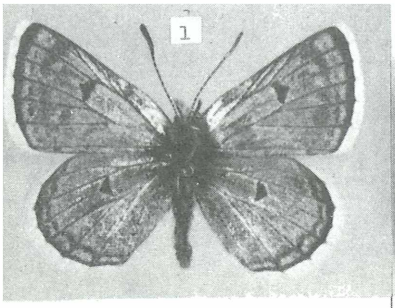
Polyommatus devanica kohibabaensis n. subsp.

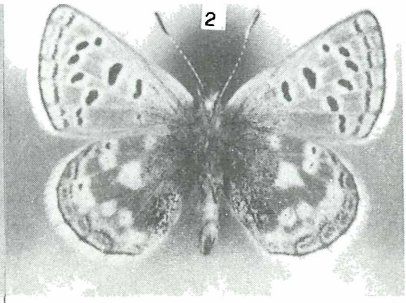
This is the first record of the species from the Koh-i-Baba Mts., Afghanistan. In 1971, I captured a number of this species in the NE-Hindukush mountains. It is most closely allied to the Swat ssp. *glacilis*. The Koh-i-Baba specimes differ from the NE-Hindukush ssp. *glacilis* in the following respects:

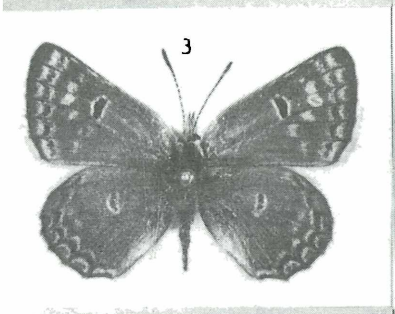
1) The length of forewing ist much shorter. Length of forewing: ♂♀, 13 mm-14 mm
2) The white-ringed black spots on the underside are much smaller.
3) The white markings in spaces 3 and 4 on the hindwing underside are extremely reduced, while in the NE-Hindukush ssp. *glacilis*, they are very well developed.

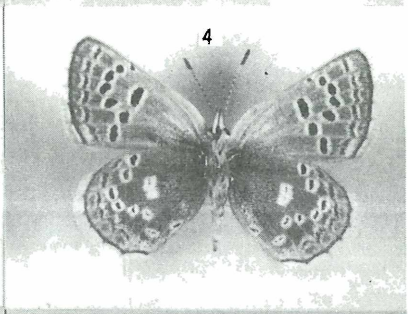
Holotype ♂: Paghman Mts., 3500—3800 m, 4.—11. VIII. 1972, Afghanistan, leg. et in coll. S. SAKAI
Paratypes: 1 ♂, Paghman in coll. British Museum, Natural History, London, England
2 ♀♀, Paghman in coll. S. SAKAI
1 ♂, Panjao, Koh-i-Baba, in coll. S. SAKAI

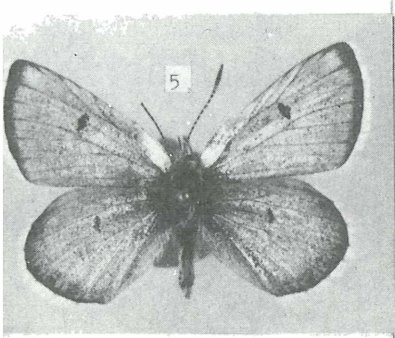
Distribution: Ladak, Kashmir, Swat, Pamir and Afghanistan.

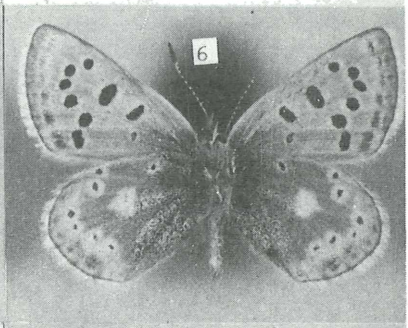


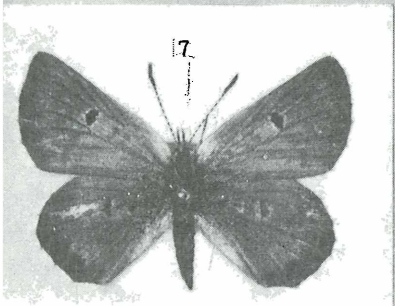


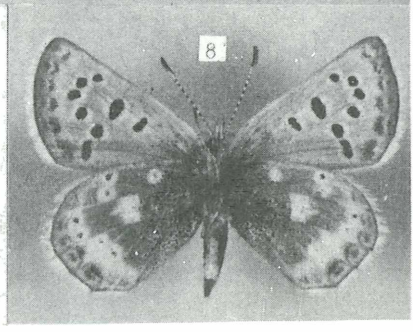


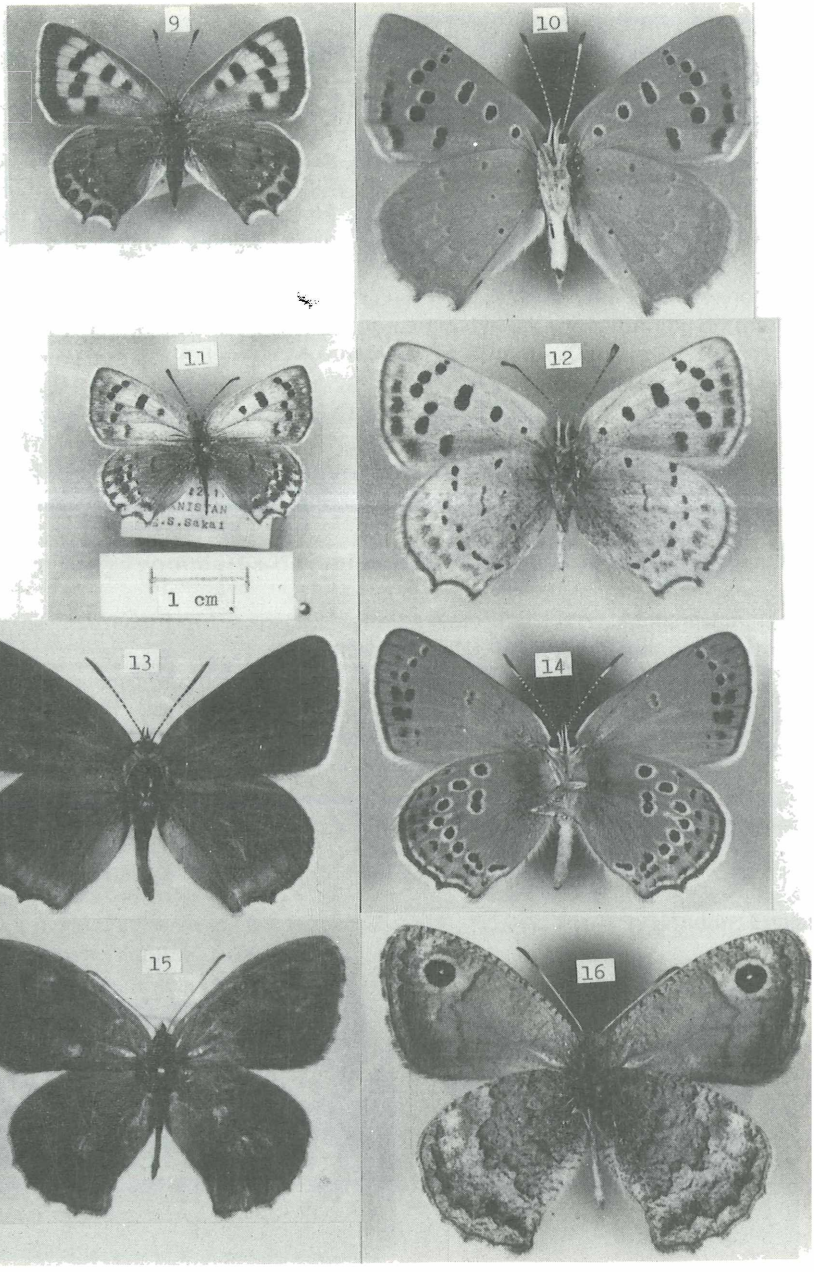


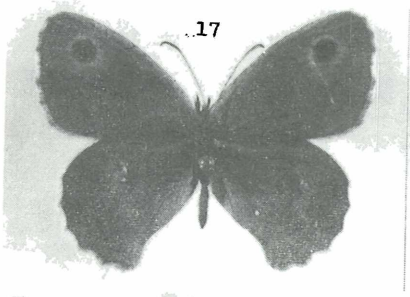


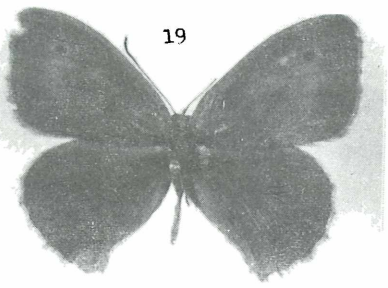


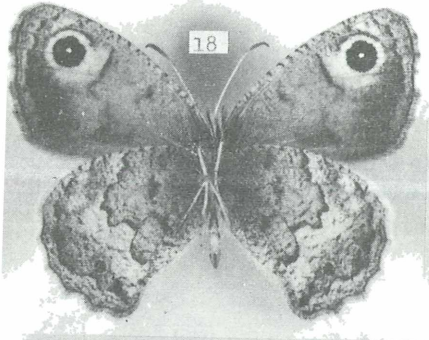


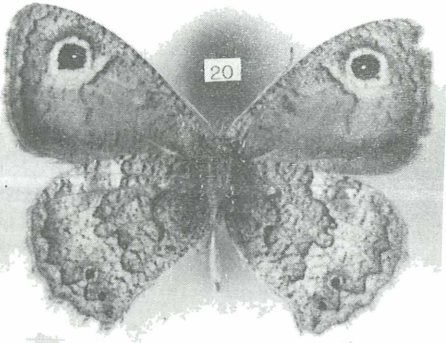


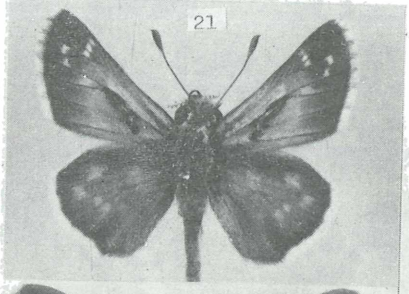


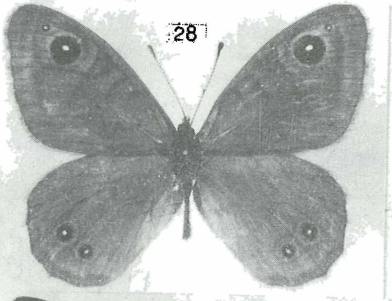


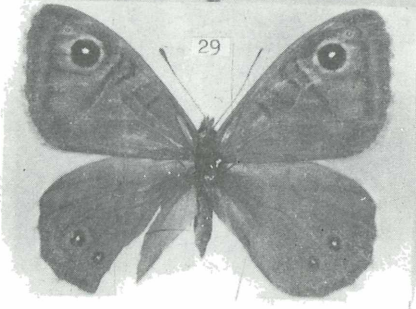


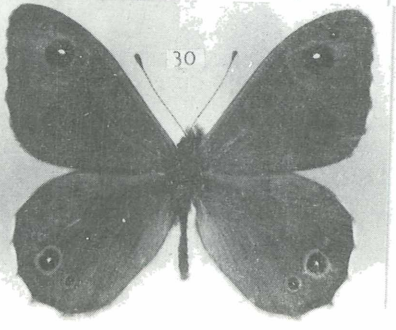


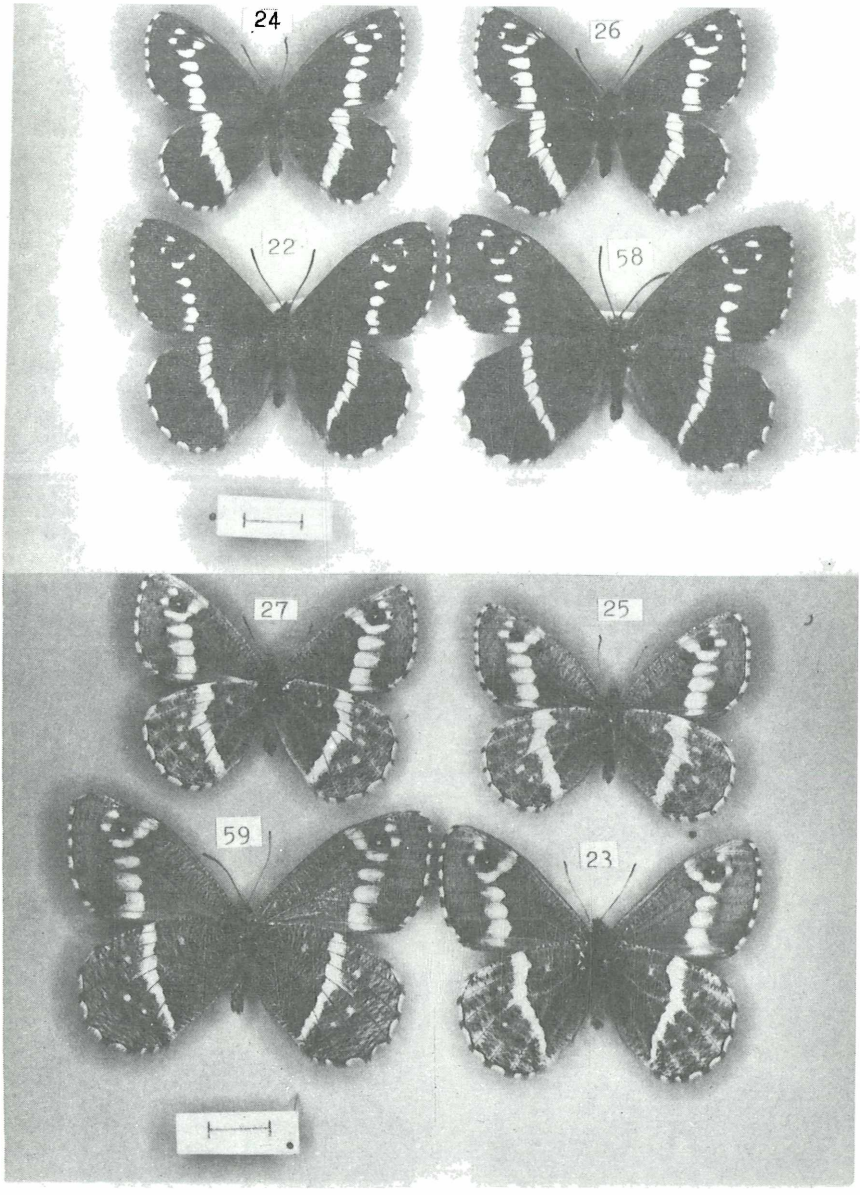


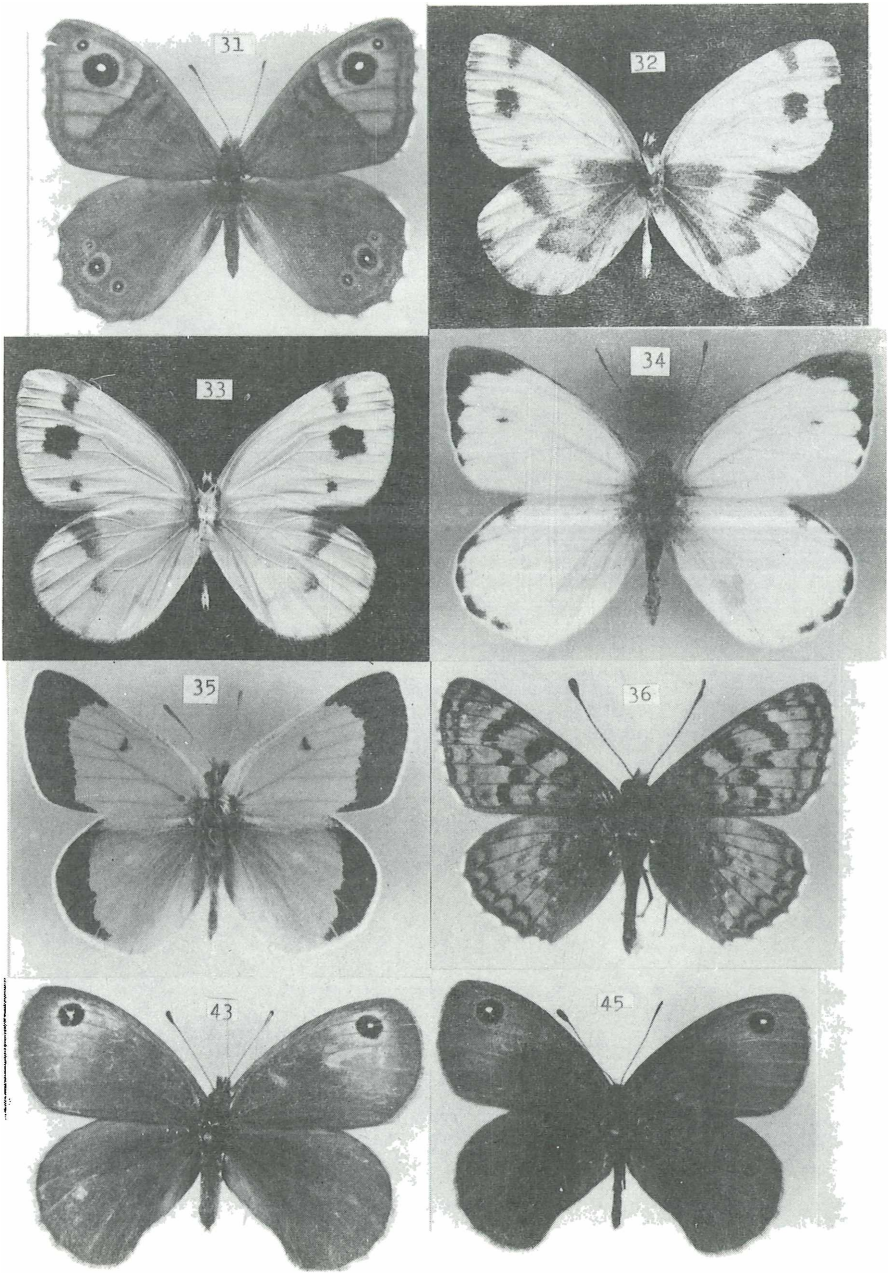


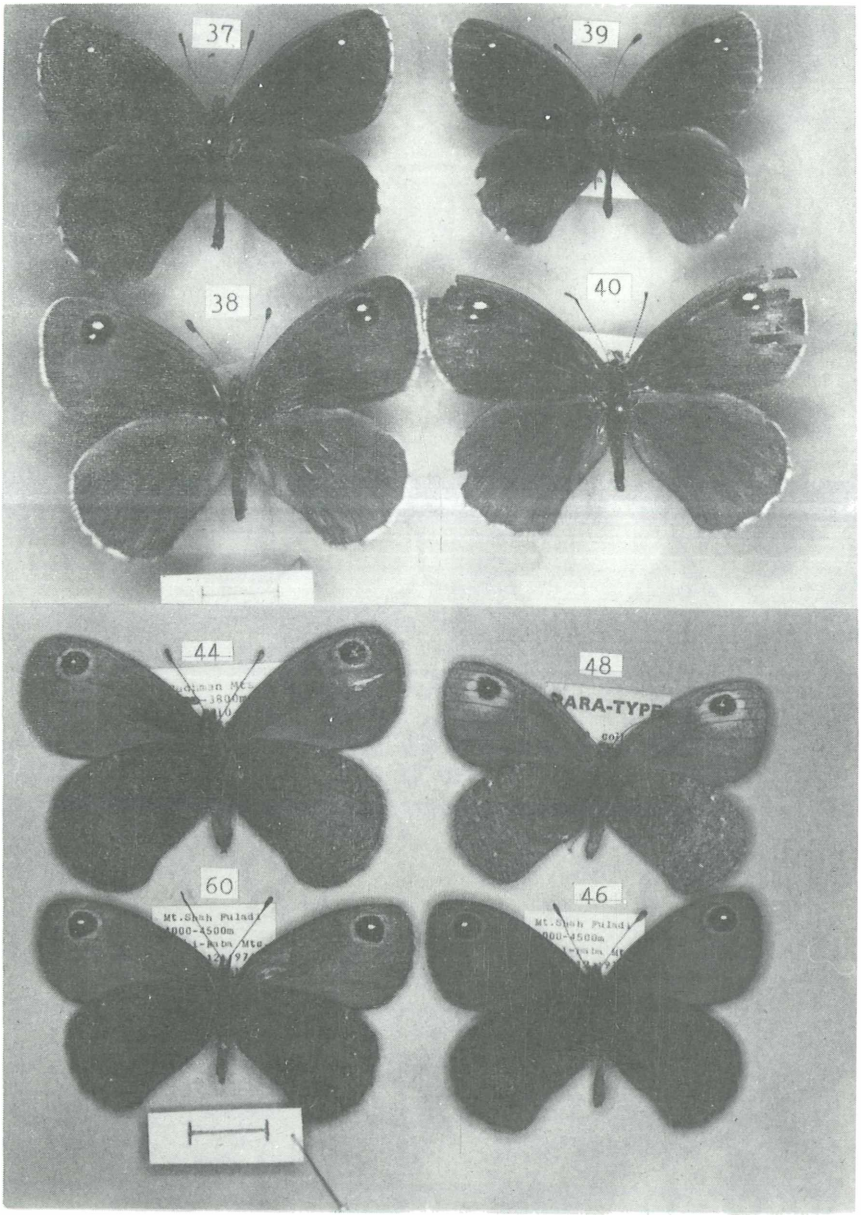


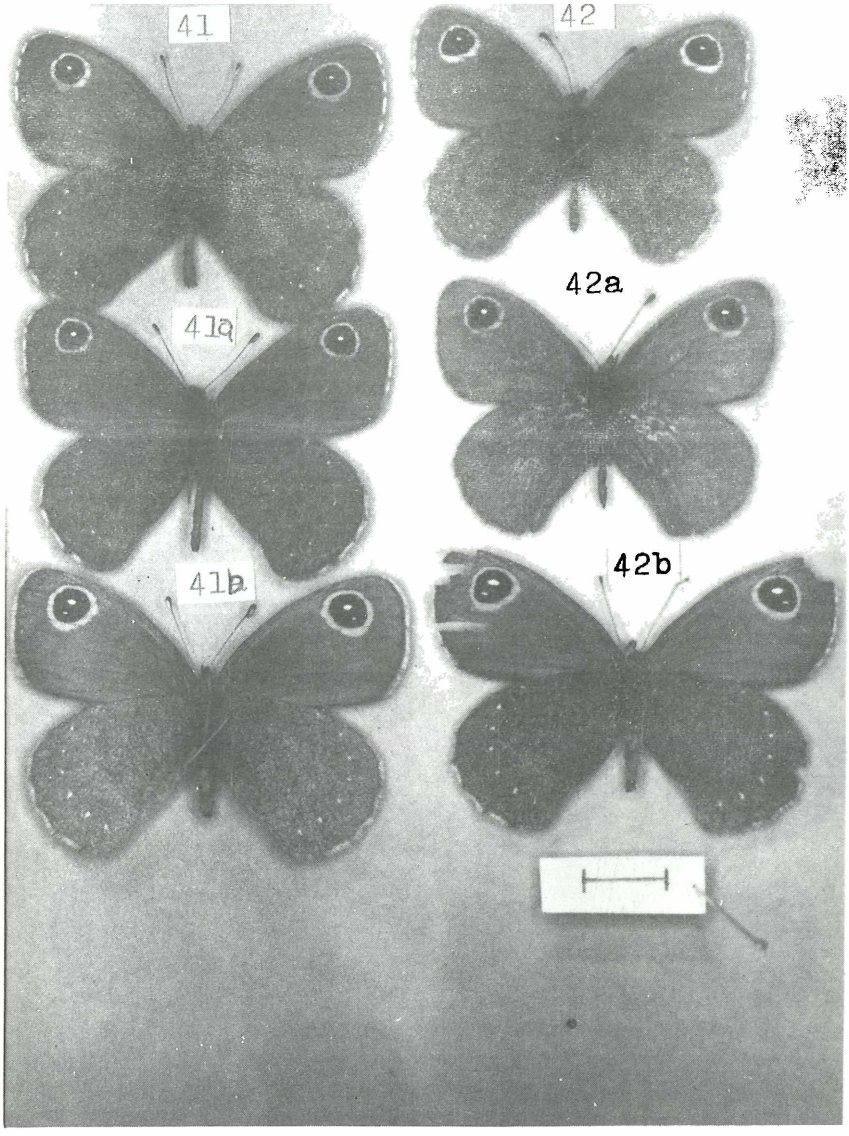


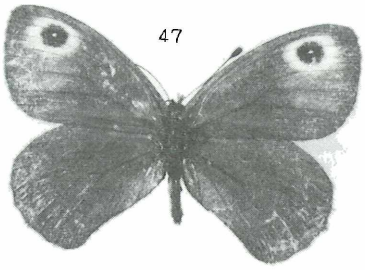


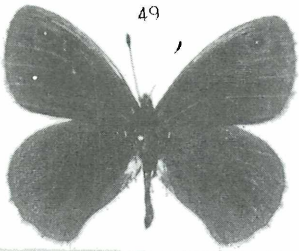


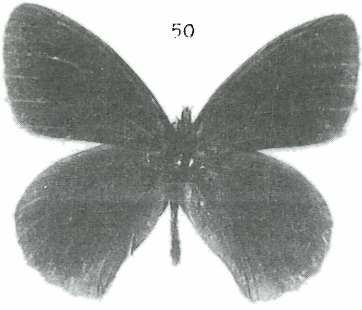


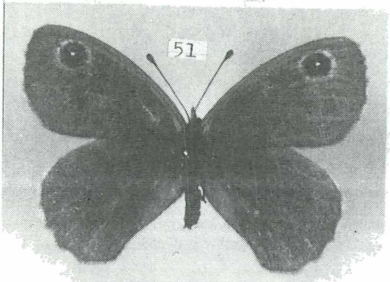


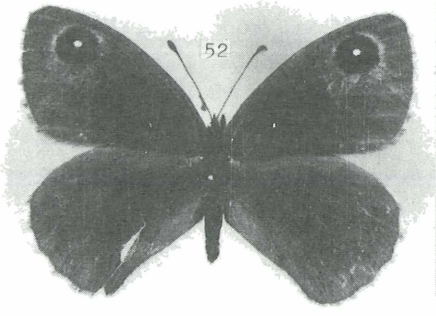


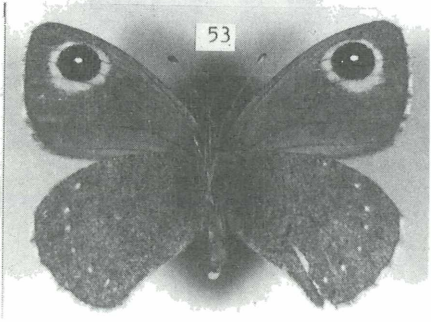


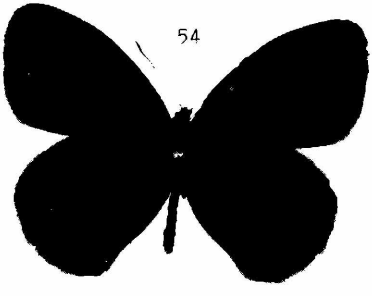


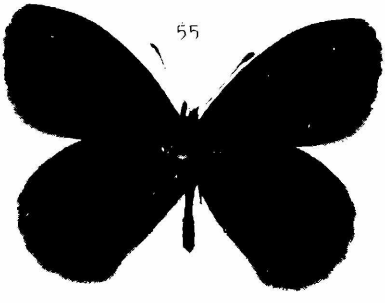


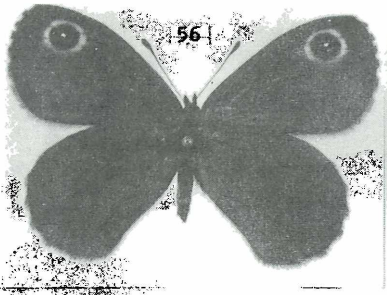


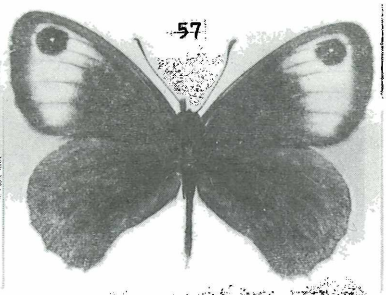


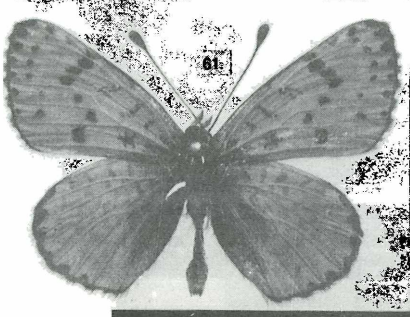


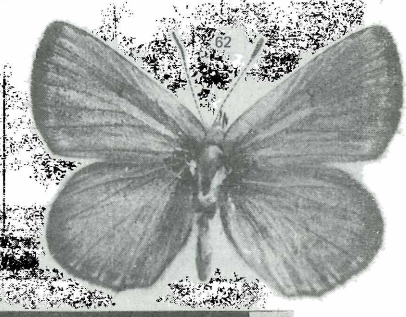


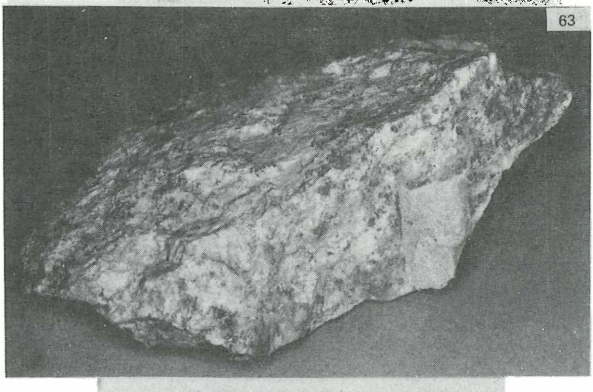


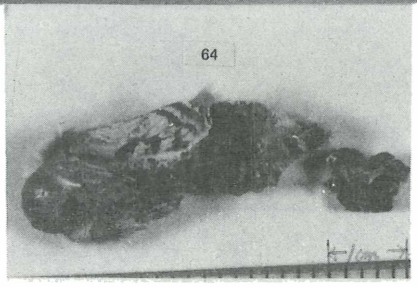


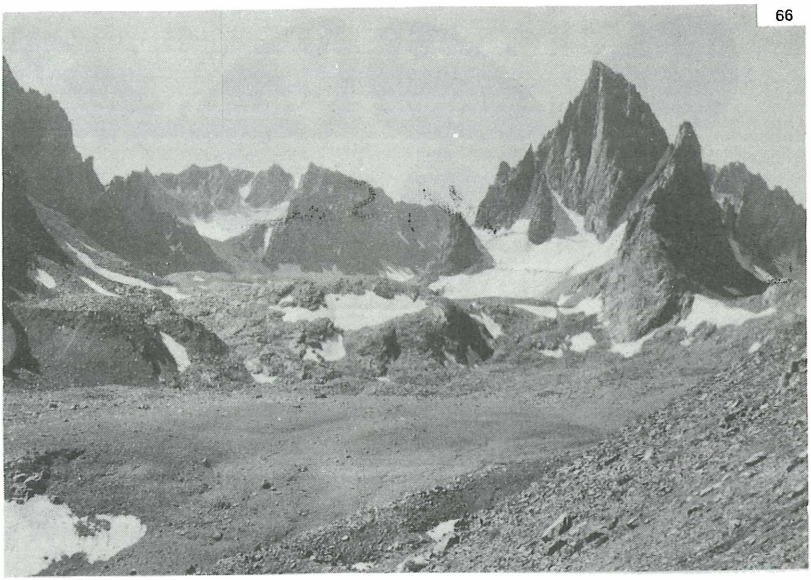




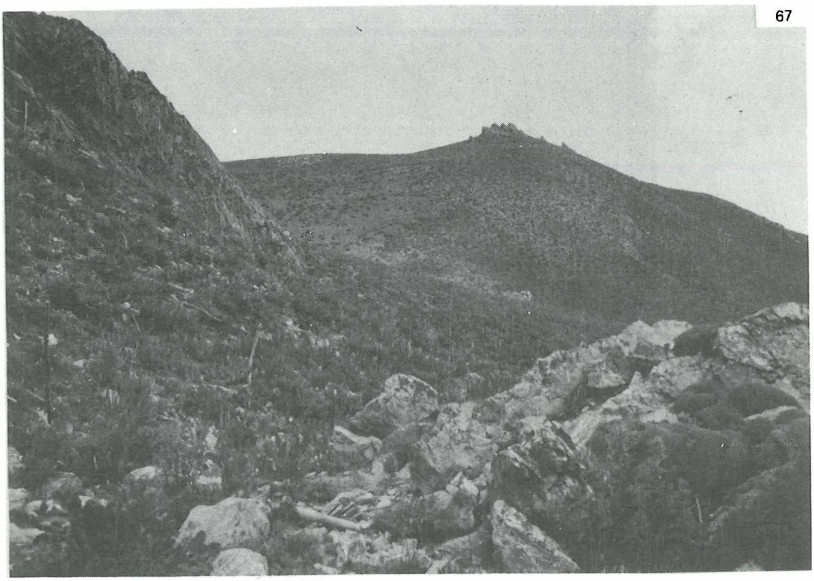




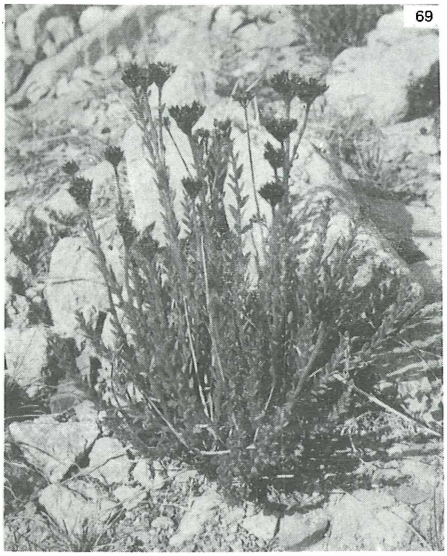




66



67



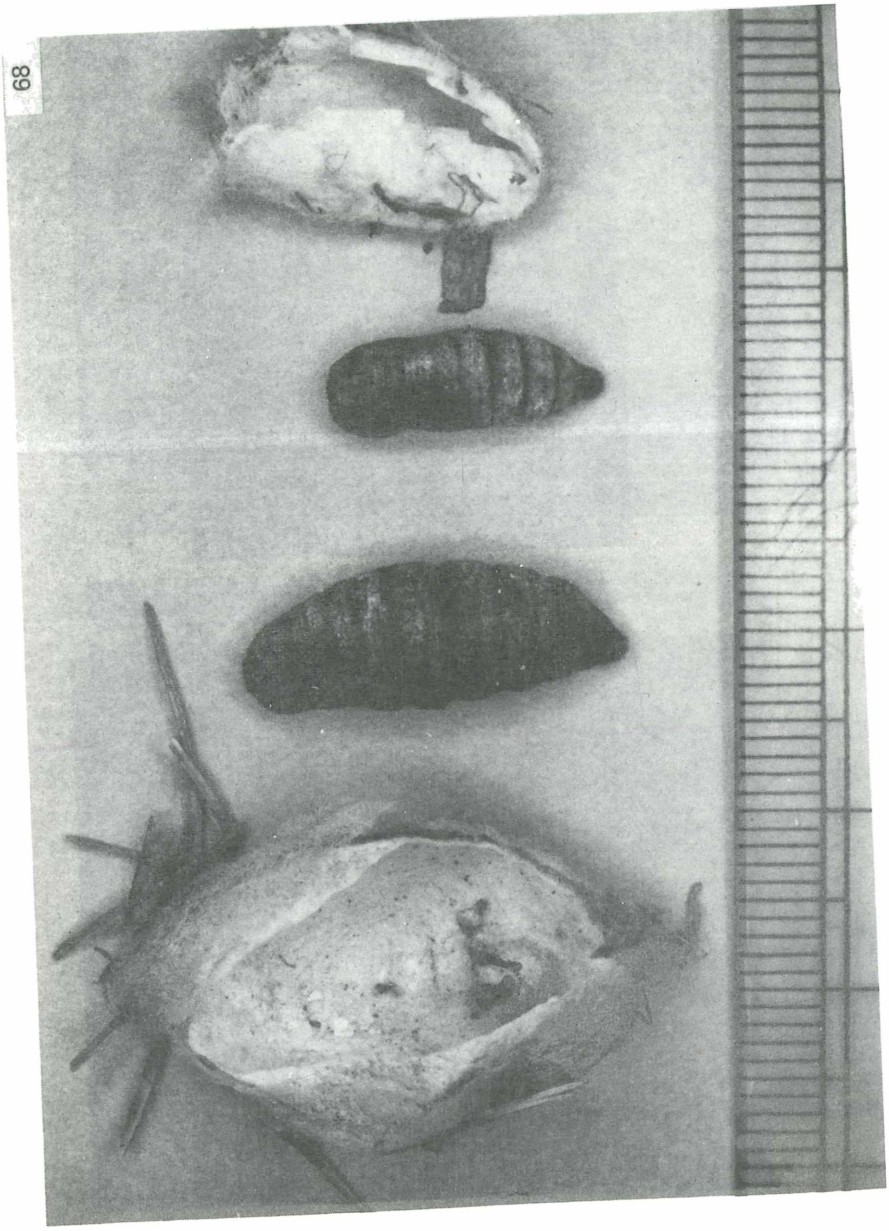


Fig. 1	*Agriades phretiades forsteri* n. subsp.	♂: Upper Side (Holotype)
Fig. 2	Id.	Under side
Fig. 3	Id.	♀: Upper side (Paratype)
Fig. 4	Id.	Under side
Fig. 5	*Agriades phretiades andarabi* FORSTER	♂: Upper side
Fig. 6	Id. (Mt. Koh-i-Bandaka)	Under side
Fig. 7	Id.	♀: Upper side
Fig. 8	Id.	Under side
Fig. 9	*Lycaena phlaeas stygiana* BUTLER	♀: Under side
Fig. 10	Id. (Kabul, Afghanistan)	Under side
Fig. 11	*Lycaena kiyokoae* n. spec.	♀: Upper side (Holotype)
Fig. 12	Id.	Under side
Fig. 13	*Fixsenia lederei* BOISDUVAL	♂: Upper side
Fig. 14	Id.	Under side
Fig. 15	*Hyponephele amardaea glasunovi* GR-GRSH.	♂: Upper side
Fig. 16	Id. (Tadjikistan)	Under side
Fig. 17	*Hyponephele amardaea perplexa* WYATT & OMOTO	♂: Upper side
Fig. 18	Id.	Under side
Fig. 19	*Hyponephele amardaea eisneri* n. subsp.	♂: Upper side (Holotype)
Fig. 20	Id.	Under side
Fig. 21	*Hesperia comma comma* LINNÉ	♂: Upper side
Fig. 22	*Aulocera brahminus brahminus* BLANCHARD	♂: Upper side
Fig. 23	Id. (Muhree hills, Himachal Pradesh)	Under side
Fig. 24	*Aulocera brahminus tsukadai* n. subsp.	♂: Upper side (Holotype)
Fig. 25	Id.	Under side
Fig. 26	Id.	♀: Upper side
Fig. 27	Id.	Under side
Fig. 28	*Pararge hinducucica* WYATT & OMOTO	♂: Upper side
Fig. 29	Id.	♀: Upper side
Fig. 30	*Pararge menava* MOORE	♂: Upper side
Fig. 31	Id.	♀: Upper side
Fig. 32	*Pieris krueperi devta* de NICEVILLE	♂: Under side (Spring form)
Fig. 33	Id.	♂: Under side (Summer form)
Fig. 34	*Pieris deota* de NICEVILLE (Goma, Karakorum)	♂: Upper side

Fig. 35	*Colias marcopolo kushana* WYATT & OMOTO	♂: Upper side
Fig. 36	*Melitaea shandura* EVANS	♂: Upper side
Fig. 37	*Paralasa paghmanni paghmanni* BANG-HAAS	♂: Upper side
Fig. 38	Id. (Paghman Mts.)	♀: Upper side
Fig. 39	*Paralasa paghmanni mohabbati* n. subsp.	♂: Upper side (Holotype)
Fig. 40	Id.	♀: Upper side (Paratype)
Fig. 41	*Paralasa paghmanni paghmanni* BANG-HAAS	♂: Under side
Fig. 41a	Id. (Paghman Mts.)	♂: Under side
Fig. 41b	Id. (Paghman Mts.)	♀: Under side
Fig. 42	*Paralasa paghmanni mohabbati* n. subsp.	♂: Under side (Holotype)
Fig. 42a	Id.	♂: Under side (Paratype)
Fig. 42b	Id.	♀: Under side (Paratype)
Fig. 43	*Paralasa howarthi* n. spec.	♀: Upper side (Holotype)
Fig. 44	Id.	♀: Under side (Holotype)
Fig. 45	Id.	♂: Upper side (Paratype)
Fig. 46	Id.	♂: Under side (Paratype)
Fig. 47	*Paralasa chitralica manioides* WYATT & OMOTO	♀: Upper side (Paratype)
Fig. 48	Id.	♀: Under side (Paratype)
Fig. 49	*Paralasa shakti* WYATT (Upper Bala-Quran)	♂: Upper side
Fig. 50	*Paralasa afghana* v. d. GOLTZ	♂: Upper side
Fig. 51	Id.	♀: Upper side
Fig. 52	Id.	♀: Upper side
Fig. 53	Id.	♀: Under side
Fig. 54	*Paralasa maracandica* ERSCH. (Hissar)	♂: Upper side
Fig. 55	*Paralasa kalinda* MOORE	♂: Upper side
Fig. 56	Id. (Grampoo, Himachal Pradesh)	♀: Upper side
Fig. 57	*Paralasa mani icelos* GR-GRSH.	♂: Upper side
Fig. 58	*Aulocera brahminus brahminus* BLANCHARD	♀: Upper side
Fig. 59	Id. (Muhree hills, Himachal Pradesh)	♀: Under side
Fig. 60	*Paralasa howarthi* n. spec. (Mt. Shahfuladi)	♀: Under side (Paratype)

Fig. 61 *Melitaea didymina higginsi* n. subsp. ♂: Upper side (Holotype)

Fig. 62 *Polyommatus devanica kohibabaensis* n. subsp. ♂: Upper side (Holotype)

Fig. 63 Cocoon of *P. autocrator*

Fig. 64 Pupa of *P. autocrator*
A view of the Upper Bala-Quran village. *P. autocrator* flies in the middle of this valley.
Larval food plant of *P. autocrator. Corydalis adiantifolia* (Yellow flowered).
A view of Mt. Kolahoi, Kashmir India.

Fig. 65 Larval food plant of *P. charltonius serenissimus: Corydalis thyrsiflora* (Yellow flowered), Mt. Kolahoi, 3800 m India.
Larval food plant of *P. charltonius ella: Corydalis gortschakovii* (Yellow flowered), Upper Goma, S. Karakorum, Pakistan.

Fig. 66 A view of the Northern slopes of Mt. Shahfuladi, Koh-i-Baba Mts., Central Afghanistan.
Larval food plant of *P. delphius kohibaba: Corydalis fedtschenkoana* (Purplish white flowered)

Fig. 67 A view of Upper Panjao, W. Koh-i-Baba Mts., Afghanistan
Larval food plant of *P. honrathi afganistanus: Sedum sp.* (Pink flowered)

Fig. 68 Cocoon & Pupa of *P. honrathi afganistanus*.
First and second instar of *P. honrathi* larvae were found upon the leaves of *Zygofyllum miniatum*

Fig. 69 Larval food plant of *P. jaquemontii nuksanica: Sedum sp.* , Ghawas valley NE-Hindukush Mts., 4200 m (Red flowered)

-References-

BANG-HAAS, O. (1927): Horae Macrolepidopterologicae regionis palaearcticae Volumen I, XXVII + 128 pp. 11 pls, Dresden-Blasewitz

BRYK, F. (1923): Lepidopterorum Catalogus, Pars 27, Baroniidae, Teinopalpidae, Parnassiidae, Berlin

EISNER, C. (1954–1976): Parnassiana nova. – Zoöl. Meded., Leiden

EVANS, W. H. (1949): A Catalogue of the Hespriidae from Europe, Asia and Australia in the British Museum (Natural History), London

GOLTZ, v. D. (1937): Erebien aus dem Hindukusch.-Ent.Rundsch. **54**:357–364

GROSS, F. J. (1958): Zur Schmetterlings-Fauna Ostasiens I. Gattung Satyrus Latr., Untergattung Aulocera But. (Lep. Satyridae),Sonderdruck aus Bonner Zoologische Beiträge, p. 261–293

HIGGINS, L. G. (1941): An illustrated catalogue of the Palaearctic Melitaea (Lep. Rhopalocera). – Trans.R.ent.Soc. Lond. **91**:175–365, 16pls.

LEECH, J. H. (1892–4): Butterflies from China, Japan and Corea. **1**:1–297, **2**:298–681, **3**:1–43. London.

SEITZ, A. (1909): The Macrolepidoptera of the World I. Palaearctic Butterflies, Stuttgart.

VERITY, R. (1905–11): Rhopalocera Palaearctica. Florence.

WYATT C. K. & OMOTO (1966): New Lepidoptera from Afghanistan. – Entomops, 5 & 6.

(1963): Auf der Jagd nach Parnassius autocrator Avin. Z. Wien. Ent. Ges. **48**:163–170.

WYATT, C. (1961): Additions to the Rhopalocera of Afghanistan with Descriptions of new Species and Subspecies. – Journ. Lep. Soc. 15 (1): 6–7

Authors address:

SEIJI SAKAI
48–8, Higashitateishi
4–Chome, Katsushika-Ku,
Tokyo, 124 Japan

Berichtigungen zum Beitrag von SEIJI SAKAI „Butterflies from the Hindukush, Karakorum, Kashmir and Ladak, with Descriptions of two new Species and six Subspecies", Atalanta 9: 104–132.

p. 104 lies: two new Species in der Überschrift
p. 105, letzter Absatz, 3. Zeile lies: *P. charltonius*, 8. Zeile: collecting und 9. Zeile: which is fancifully
p. 106, 13. Zeile lies: *charltonius*, 16. Zeile: I have
p. 107, 8. Zeile von unten lies: is statt ist
p. 110, 10. Zeile von unten lies: it differs from the typical *perplexa* in
p. 111, 6. Zeile lies: This is a new
p. 114, 18. Zeile lies: but in one female it has
p. 115 ist folgender Absatz einzufügen:

Colias cocandica hinducucica VERITY, 1911
(Rhopalocera Palaearctica, p. 353, pl. LXX, figs. 25–27)

This is a new record for the Koh-i-Baba Mts., C. Afghanistan. It appears to belong to the NE-Hindukush ssp. *hinducucica*.

2 ♂♂, 5 ♀♀: Northern slopes of Mt. Shahfuladi, at 4200 m elevation, 8.–12. VIII.1974. Leg et in coll. S. SAKAI.

Specimens examined: 2 ♂♂, 2 ♀♀, Anjuman Paß, NE-Hindukush, S. SAKAI leg. 1 ♀, Hodja Mahomed Mts., NE-Hindukush, Y. ISHIKAWA leg. 1 ♂, Salang Paß, Baghlan, Afghanistan, leg et in coll. S. SAKAI.

Colias marcopolo kushana WYATT & OMOTO, 1966
(Entomops, **5**: 143)

This is the first record of the species from the Koh-i-Baba Mts., C. Afghanistan. A total of 73 specimens have been captured by me. There is very little doubt that the Kohibaba specimens are identical with the NE-Hindukush ssp. *kushana*.

47 ♂♂, 26 ♀♀: Northern slopes of Mt. Shahfuladi, at 4000–4200 m elevation, Koh-i-Baba Mts., C. Afghanistan, 8.–12.VIII.1974. Leg et in coll. S. SAKAI.

Specimens examined: 2 ♂♂, 2 ♀♀: Upper Bala-Quran, 4000–4200 m, 21.–22. VII.1971, NE-Hindukush Mts., Afghanistan. Leg et in coll. S. SAKAI.
10 ♂♂, 3 ♀♀: Ghawas valley, 3800–4200 m, 25.–27.VII.1971, NE-Hindukush Mts., Afghanistan. Leg et in coll. S. SAKAI.

p. 116, 21. Zeile lies: is

Die auf Seite 131 unter Fig. 64–68 aufgeführten Abbildungen konnten leider aufgrund mangelnder Bildqualität nicht reproduziert werden.